

REMARKS

STATUS OF THE CLAIMS

Claims 1-19, 22-34, 37, 38, 40-49, and 51-54 are pending in the application.

Claims 1-19, 22-34, 37, 38, 40-49 and 51-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagakubo (U.S. Patent No. 5,757,343) in view of Tsuchida (U.S. Patent No. 6,304,238).

According to the foregoing, the claims are amended, and, thus, the pending claims remain pending for reconsideration, which is respectfully requested.

No new matter is being presented.

REJECTION

The Office Action maintains from the previous Office Action rejection of claims 1-19, 22-34, 37-38, 40-49 and 51-54 under 35 USC 103(a) as being unpatentable over Nagakubo (US Patent No. 5,757,343) in view of Tsuchida (US Patent No. 6,304,238).

The independent claims are 1, 19, 26, 34, 40, 47, 51, 53 and 54, of which independent claims 1, 26, 40, 51, 53 and 54 relate to "***correcting white balance by adjusting amplitudes of said input primary color video signals in accordance with said detected number of emissions or said detected intensity of the emissions***" and independent claims 19, 34 and 47 relate to "***correcting said white balance by adjusting the output gray levels of said primary color video signals in accordance with said detected input gray levels.***"

INDEPENDENT CLAIMS 1, 26, 40, 51, 53 AND 54

The Office Action page 4, item 4 is the Response to Arguments, which alleges "Nagakubo clearly discloses adjusting amplitudes of the input primary color video signals in accordance with the number of emissions (see Figs. 3A-3D, 6-9)."

However, Nagakubo fails to disclose or suggest "***a white balance***" process. So the Office Action Response to Arguments, page 4, item 4, essentially alleges "it is known in the art that the color input signal (red, green, blue) are subject to a white balance process in a white balance regulating section" and the Office Action relies on Tsuchida's FIG. 1, white balance adjusting section 26 to support its well known assertion. So the Office Action alleges it would

have been obvious to one skilled in the art at the time of the invention to have included a white balance adjuster to the driving circuit of Nagakubo, because a white balance adjusting process was a well known process.

However, Nagakubo (U.S. Patent No. 5,757,343) relates to a luminance adjusting apparatus in a plasma display panel used to continuously adjust the luminance of the whole panel, and does not disclose the special characteristics of the claimed present invention as recited in independent claims 1, 26, 40, 51, 53 and 54, as follows:

The independent claims 1, 26, 40, 51, 53 and 54 are amended for clarity along the lines of the present Application paragraph spanning pages 1-2; page 22, lines 27-36; and page 26, lines 11-27, as follows:

1. (CURRENTLY AMENDED) **A plasma display** apparatus for displaying a color image, comprising:
 - a controller controlling a number of emissions or intensity thereof for each of input primary color video signals respectively to display a color image;
 - a detection portion ~~*detecting number of emissions or intensity of the emissions, of input primary color a luminance level of the input primary color video signals;*~~ and
 - a white balance correction portion ~~*correcting white balance by adjusting amplitudes of said each of the input primary color video signals respectively in accordance with said detected number of emissions or said detected intensity of the emissions luminance level.*~~

The independent claims 1, 26, 40, 51, 53 and 54 are amended to expressly recite “A **plasma display apparatus**.” Specifically, according to the claimed present invention, in a “**plasma display apparatus**” a controller controls a number of emissions or intensity of the emissions for each of input primary color video signals (e.g., R, G, B) respectively to display a color image, and the detection portion detects a luminance level of input video signals. Further, in contrast to Nagakubo, the white balance correction portion of the claimed present invention corrects white balance by ***adjusting amplitudes of each of the input primary color video signals (R, G, B) respectively in accordance with the luminance level detected by the detection portion*** (e.g., amended independent claim 1, “a white balance correction portion ***correcting white balance by adjusting*** amplitudes of said ~~*each of the*~~ ***input primary color***

video signals respectively in accordance with ~~**said detected**~~ number of emissions or ~~**said detected intensity of the emissions**~~ **luminance level**").

Nagakubo discusses adjusting ***a number of emissions of input primary color video signals*** to ***adjust luminance***. Therefore, Nagakubo adjusts the luminance based upon the number of emissions of the primary color video signals. However, in contrast to Nagakubo, the claimed present invention adjusts "***amplitudes of said each of the input primary color video signals respectively*** in ~~***accordance with said detected***~~ number of emissions or ~~***said detected intensity of the emissions***~~ ***luminance level***" to perform "***correcting white balance***." In other words, Nagakubo adjusts luminance based upon the number of emissions of input primary color video signals, but the claimed present invention corrects a white balance "in accordance with ~~***said detected***~~ number of emissions or ~~***said detected intensity of the emissions***~~ ***luminance level***."

To the extent the Office Action Response to Arguments maintains that "***correcting white balance ... in accordance with said detected*** number of emissions or ~~***said detected intensity of the emissions***~~ ***luminance level***" would be obvious, because white balance correction can depend upon luminance, and the Office Action Response to Arguments relies on Tsuchida's white balance adjusting section 26 to support motivation to modify Nagakubo, however, Tsuchida's white balance correction is in a Liquid Crystal Display (LCD), which differs from "A ***plasma display apparatus***." And Tsuchida's white balance correction is provided after A/D converter 25 and appears to take input from the back light 35 of the LCD. Tsuchida is directed to a different display apparatus, because Tsuchida is directed to a liquid crystal display, and, thus, an LCD would not display a color image by controlling the number of emissions or the intensity thereof according to the primary color video signals. In other words, an LCD displays a color image different from display apparatuses controlling the number of emissions of primary color video signals (see page 2, lines 1-11 of the present Application). In the claimed present invention, as recited in amended independent claims 1, 26, 40, 51, 53 and 54, the display apparatus is not a liquid crystal display apparatus, but is a "***plasma display apparatus***." Tsuchida (U.S. Patent No. 6,304,238) relates to a liquid crystal display apparatus having a back light (Tsuchida, column 5, lines 14-21), and is basically different from the claimed present invention's "***plasma display apparatus***."

The amended independent claims 1, 26, 40, 51, 53 and 54 recite “a controller controlling a number of emissions or intensity thereof for each of input primary color video signals respectively to display a color image,” further emphasizing the claimed present invention’s **“plasma display apparatus”** difference from Tsuchida’s Liquid Crystal Display. In other words, Tsuchida discusses a white balance correction 26 for an LCD, and although white balance correction can depend on luminance, Tsuchida’s white balance correction 26 would differ from the claimed present invention, because Tsuchida’s LCD does not display a color image based upon number of emissions, but Tsuchida column 5, lines 14-21 and FIGS. 1-2 discuss an LCD using a back light, so Tsuchida could not perform the claimed present invention’s **“correcting white balance by adjusting amplitudes of said each of the input primary color video signals respectively”** in accordance with said ~~detected~~ number of emissions or said ~~detected~~ intensity of the emissions **luminance level.**”

Therefore, to the extent the Office Action relies on Tsuchida for the general concept of a white balance correction, which can be correctable based upon luminance, Tsuchida’s white balance correction differs from the claimed present invention, because an LCD’s luminance is based upon a back light that differs from luminance in a **“plasma display apparatus”** where “a controller controlling a number of emissions or intensity thereof for each of input primary color video signals respectively to display a color image.” As discussed above, Nagakubo discusses continuously adjusting luminance by adjusting the number of emissions of input primary color video signals, but fails to discuss any type of white balancing. So Tsuchida’s LCD apparatus fails to provide any motivation to be combined with Nagakubo’s **“plasma”** display apparatus to achieve the claimed present invention’s **“plasma display apparatus ... correcting white balance by adjusting amplitudes of said each of the input primary color video signals respectively”** in accordance with said ~~detected~~ number of emissions or said ~~detected~~ intensity of the emissions **luminance level.**”

A benefit of the claimed present invention is to maintain the white balance constant regardless of the number of emissions (present Application page 22, lines 10-12). As argued in the previous Response, Nagakubo adjusts the number of emissions according to a luminance adjustment to continuously adjust the luminance of the plasma display panel. In contrast to Nagakubo, the claimed present invention is **“detecting ... a luminance level of the input primary color video signals,”** and based upon the **“detecting ... a luminance level,”** the **white balance is corrected.** In other words, when luminance of the plasma display panel is adjusted

by adjusting the number of emissions in Nagakubo, the claimed present invention further provides "***correcting white balance ... in accordance with said ~~detected number of emissions~~ or said detected intensity of the emissions******luminance level.***

In view of the claim amendments and remarks, independent claims 1, 26, 40, 51 and 53 are allowable over Nagakubo and Tsuchida, and withdrawal of the rejection of independent claims 1, 26, 40, 51 and 53 and allowance of these claims is respectfully requested.

INDEPENDENT CLAIMS 19, 34 and 47

Regarding independent claims 19, 34 and 47, contrary to the Office Action page 3 rejection rationale for claim 19, Nagakubo is silent on "***detecting input gray levels ... and "correcting said white balance by adjusting the output gray levels of said primary color video signals in accordance with said detected input gray levels."***" The Office Action page 3, last paragraph alleges Nagakubo's FIGS. 1 and 6 discuss "output gray levels (R, G, B, FIG. 1) of images represented by the primary color video signals are adjusted in accordance with input gray levels (R, G, B, FIG. 6 of the image represented by the primary color video signals." However, Nagakubo's FIG. 1 discusses the number of times of discharge light emission performed in each sub-field in one field period for achieving a 256 luminance gradation display (column 1, lines 23-25) to reject independent claims 19, 34, and 47, and FIG. 6 discusses gain adjusting. Although Nagakubo can achieve a 256 luminance gradation display, it is readily apparent Nagakubo is absolutely silent on the claimed present invention's "***detecting input gray levels***" to perform "***correcting said white balance by adjusting the output gray levels,***" because Nagakubo relates to a luminance adjusting apparatus in a plasma display panel to continuously adjust the luminance of the whole panel corresponding to a luminance level set by the user's luminance adjusting manipulation 20.

Nagakubo's luminance adjusting apparatus teaches away from "***detecting input gray levels,***" because Nagakubo column 4, lines 26-31 and column 5, lines 38-56, discuss the gain adjusting circuit 21 (FIG. 6) adjusts the gains of R, G, B pixel based upon a gain adjusting signal supplied from a controller 20 and a luminance adjusting manipulation unit 22 (FIGS. 4 and 7). Nagakubo column 5, lines 38-41 discuss luminance adjusting signal supplied from the luminance adjusting manipulation unit 22 is based upon a user manipulation to adjust the luminance of the whole panel and Nagakubo FIG. 7 and column 5, starting at line 57 discuss a luminance adjusting control subroutine that is based upon set luminance modes tied to

discharge light emissions as discussed in column 2 and FIG. 1, but fail to disclose or suggest the claimed present invention's "***detecting input gray levels***" based upon which the claimed present invention in contrast to Nagakubo and Tsuchida provides "***correcting said white balance by adjusting the output gray levels.***" Accordingly, independent claims 19, 34 and 47 are allowable over Nagakubo and Tsuchida.


Withdrawal of the rejection of independent claims 19, 34 and 47 is respectfully requested.

CONCLUSION

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Respectfully submitted,
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